Illinois Department of PUBLIC HEALTH

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MEMORANDUM

TO: Local Health Departments, Emergency Departments, Hospitals, Infection Control Professionals, Infectious Disease Physicians, Laboratories

FROM: Illinois Department of Public Health
Communicable Disease Control Section

Date: May 2, 2014

RE: MERS Co-V: Update and Guidance for Healthcare Professionals

(MERS CoV) emerged in 2012 and over 400 cases have been reported in fifteen countries. The reported case fatality rate is about 30%. Numerous cases of transmission in health care settings have occurred in situations where MERS-CoV was not recognized, and proper use of personal protective equipment did not take place.

Today, CDC confirmed a case of MERS-CoV in a person hospitalized in Indiana. This is the first person testing positive in the U.S. This person traveled from the Middle East and passed through O'Hare airport on April 24.

According to the World Health Organization, many of the recent cases acquired the infection in the Kingdom of Saudi Arabia. Additional information on the disease can be found at http://www.cdc.gov/coronavirus/mers/index.html.

Most cases identified to date have developed upper respiratory symptoms progressing severe pneumonia and required hospitalization. Most fatalities have been described in patients with co-morbidities in healthcare settings. A range of illness is likely, as the spectrum of illness is yet to be fully understood. Healthcare professionals should evaluate the patients for MERS-CoV infection per the CDC MERS-CoV Case Definitions of person under investigation (PUI) attached to this document. This information regarding evaluating a suspected for MERS Co-V can be found at the following link: http://www.cdc.gov/coronavirus/mers/case-def.html. These patients should also be evaluated for common causes of community-acquired pneumonia. The evaluation of persons meeting the above criteria should be based on both clinical presentation, travel and exposure history. Laboratory testing for MERS-CoV and other respiratory pathogens can be done simultaneously. Clinical testing for MERS Co-V should be considered for patients whose clinical and travel history are concerning for MERS-CoV, even if they test positive for other pathogens that cause respiratory illness. The local health department should immediately contact the state health department for approval for specimen

submission if the patient meets the criteria listed above. Once specimen submission is approved, specific questions about transportation of specimens can be directed to the IDPH Chicago laboratory at 312-793-4760.

Infection prevention and control measures are critical to prevent spread of MERS Co-V in healthcare facilities. Triage to identify suspected MERS Co-V is recommended in order to avoid unrecognized cases and exposures/transmission in health care settings. Standard, contact, and airborne precautions including use of eye protection) are recommended for management of hospitalized patients with known or suspected MERS-CoV infection, based on CDC's case definition for patient under investigation (PUI). N-95 masks and eye protection should be worn for procedures which may generate high concentrations of respiratory aerosols such as bronchoscopy, sputum induction and intubation and extubation (aerosol generating procedures).

In other settings, if an airborne isolation room AIIR is not available, a patient with suspected MERS-CoV should be transferred as soon as is feasible to a facility where an AIIR is available. Pending transfer, place a facemask on the patient and isolate him/her in a single-patient room with the door closed. The patient should not be placed in any room where room exhaust is recirculated without high-efficiency particulate air (HEPA) filtration.

Please review the attached infection control guidance and case definitions.
Suspect cases of MERS Co-V should be reported to the local health department as soon as possible. Health departments should immediately report persons under investigation (PUI's) to IDPH using the MERS PUI short form below.

At present there is no vaccine or specialized treatment for this virus. Therefore, control measures such as isolation and/or quarantine of ill persons and/or persons exposed to the virus may need to occur if cases are identified within the state of Illinois. Illinois Department of Public Health (IDPH) advises healthcare providers to review IDPH's isolation and quarantine rules, and protocols for implementing isolation or quarantine orders, if needed. The legal authority to isolate or quarantine individuals is described in Section 2 of the Public Health Act [20 ILCS 2310/2310-15], Section 2310-15 of the Department of Public Health and Duties Law, and the Control of Communicable Diseases Code [77 Ill Adm. Code 690 Subpart H].

Each health care provider should be sure they know the after hours contact information for their local health department in case questions arise over the weekend. Local health departments or health care providers who cannot reach their local health department after hours and have an urgent issue about MERS-CoV should use the state EOC number (1-800-782-7860) and ask for the IDPH duty officer.

Please check the CDC website frequently for updates. Additional resources are available from CDC, including:

- Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Patients Under Investigation (PUIs) for Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Healthcare Providers Preparedness Checklist
- Healthcare Facility Preparedness Checklist
- Interim Home Care and Isolation Guidance for MERS-CoV
- Updated Case Definitions
- Guidance for travel
- Frequently asked questions

CDC MERS-CoV Case Definitions (as of 5/2/2014)

Patient Under Investigation (PUI)

A patient under investigation (PUI) is a person with the following characteristics:

- fever (≥38°C, 100.4°F) and pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence);

AND EITHER

- history of travel from countries in or near the Arabian Peninsula[1] within 14 days before symptom onset;

OR

- close contact[2] with a symptomatic traveler who developed fever and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula;[1]

OR

- is a member of a cluster of patients with severe acute respiratory illness (e.g. fever and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments.

Confirmed Case

A confirmed case is a person with laboratory confirmation[3] of MERS-CoV infection.

Probable Case

A probable case is a PUI with absent or inconclusive[4] laboratory results for MERS-CoV infection who is a close contact[2] of a laboratory-confirmed MERS-CoV case.

Footnotes

1. Countries considered in or near the Arabian Peninsula: Bahrain, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian territories, Qatar, Saudi Arabia, Syria, the United Arab Emirates (UAE), and Yemen.
2. Close contact is defined as a) any person who provided care for the patient, including a healthcare worker or family member, or had similarly close physical contact; or b) any person who stayed at the same place (e.g. lived with, visited) as the patient while the patient was ill.
3. Confirmatory laboratory testing requires a positive PCR on at least two specific genomic targets or a single positive target with sequencing on a second.
4. Examples of laboratory results that may be considered inconclusive include a positive test on a single PCR target, a positive test with an assay that has limited performance data available, or a negative test on an inadequate specimen.

Selected Components of Standard, Contact, and Airborne Precautions Recommended for Prevention of MERS-CoV Transmission in Hospitals

Component	Recommendation(s)	Comments
Patient placement	• Airborne Infection Isolation Room (AIIR)	• If an AIIR is not available, the patient should be transferred as soon as is feasible to a facility where an AIIR is available. Pending transfer, place a facemask on the patient and isolate him/her in a single-patient room with the door closed. The patient should not be placed in any room where room exhaust is recirculated without high-efficiency particulate air (HEPA) filtration. • Once in an AIIR, the patient's facemask may be removed; the facemask should remain on if the patient is not in an AIIR. • When outside of the AIIR, patients should wear a facemask to contain secretions • Limit transport and movement of the patient outside of the AIIR to medically-essential purposes. • Implement staffing policies to minimize the number of personnel that must enter the room.
Personal Protective Equipment (PPE) for Healthcare personnel (HCP)	• Gloves • Gowns • Eye protection (goggles or face shield) • Respiratory protection that is at least as protective as a fit-tested NIOSH-certified disposable N95 filtering facepiece respirator. o If a respirator is unavailable, a facemask should be worn. In this situation respirators should be made available as quickly as possible.	• Recommended PPE should be worn by HCP upon entry into patient rooms or care areas. • Upon exit from the patient room or care area, PPE should be removed and either o Discarded, or o For re-useable PPE, cleaned and disinfected according to the manufacturer's reprocessing instructions
Environmental Infection Control	• Follow standard procedures, per hospital policy and manufacturers' instructions, for cleaning and/or disinfection of: o Environmental surfaces and equipment o Textiles and laundry o Food utensils and dishware	

Standard, contact, and airborne precautions are recommended for management of hospitalized patients with known or suspected MERS-CoV infection, based on CDC's case definition for patient under investigation.

These recommendations are consistent with those recommended for the coronavirus that caused severe acute respiratory syndrome (SARS). As information becomes available, these recommendations will be re-evaluated and updated as needed.

These recommendations are based upon available information (as of June 10, 2013) and the following considerations:

- Suspected high rate of morbidity and mortality among infected patients
- Evidence of limited human-to-human transmission
- Poorly characterized clinical signs and symptoms
- Unknown modes of transmission of MERS-CoV
- Lack of a vaccine and chemoprophylaxis

Absence of confirmed or probable MERS-CoV cases in the United State